

Title: A systematic review and meta-analysis of the impact of resveratrol on oral cancer: potential therapeutic implications

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Abstract: The present study aimed to investigate the impact of resveratrol on oral neoplastic parameters through a systematic review and meta-analysis. Resveratrol, a naturally occurring polyphenol, has shown promising potential as a therapeutic agent in various cancer types, including oral neoplasms. Understanding the collective findings from existing studies can shed light on the efficacy and mechanisms of resveratrol in oral cancer management. The systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive search was performed to identify relevant studies from various databases, registers, websites, and citation searches. The inclusion criteria encompassed in-vivo studies investigating the impact of resveratrol on oral neoplastic parameters in animal models. After screening and assessment, a total of five eligible studies were included in the meta-analysis. The meta-analysis of the selected studies revealed that resveratrol treatment exhibited a potential impact on reducing oral neoplastic proliferation and promoting neoplastic apoptosis. The combined analysis showed a statistically significant decrease in neoplastic parameters with an overall effect size (ES) of 0.85 (95% CI: [0.74, 0.98]). Subgroup analyses were conducted to explore potential variations among different cellular types and exposure compounds, providing further insights into the efficacy of resveratrol in specific contexts. This systematic review and meta-analysis support the potential of resveratrol as a promising therapeutic agent in oral cancer management. The findings indicate that resveratrol may effectively modulate neoplastic proliferation and apoptosis in various cellular types within animal models of oral cancer. However, further well-controlled studies and clinical trials are warranted to validate these observations and elucidate the underlying mechanisms of resveratrol's actions. Resveratrol holds promise as a complementary therapeutic approach in the prevention and treatment of oral neoplastic conditions.

Keywords: Resveratrol, Oral cancer, Neoplastic proliferation, Apoptosis

<https://link.springer.com/article/10.1186/s12903-024-04045-8>